SUGARCANE METABOLOMICS—ADDING ANOTHER LEVEL TO UNDERSTANDING SUGAR ACCUMULATION

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METABOLOMICS is the study of small molecules (metabolites) in a high throughput automated manner.

Metabolomic studies offer unique opportunities to study how metabolism leads to different agronomically important traits such as sucrose content and yield.

With the potential of 200 000 different metabolites present in plants the study of these small molecules requires high-throughput techniques able to resolve a very large number of metabolites in a single sample.

We are using metabolomics to look at sucrose metabolism in sugarcane. To date, we have used established methods for separating and quantifying over 250 metabolites in one analysis.

We have also been able to identify differences in metabolite profiles between different plant parts and between genotypes.

Metabolomics is currently being used to analyse a range of genotypes and identify those metabolites correlated with the amount of sucrose accumulated.

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